

## Bezel Ring Tutorial

By Jeff Fulkerson

We're going to make a variation on the standard bezel-set ring with just a plain band and plate. We'll make a "shadow box" to surround the stone and a split band using both round and half round wire. I have used a piece of Demali Turquoise, which is really variscite. All of the metal is sterling silver except for the bezel, which is fine silver, which makes it easier to bend over your stone.

### Materials List – Don't forget Safety Glasses!

- Free-form cabochon
- 16 gauge round wire, 6"
- 6 gauge half round wire, 3"
- 24 gauge sheet approximately 1½" x 2" (depending on the size of your cab)
- 12 gauge half round, 6"
- Fine Silver bezel wire, 4"

### Tool List

- Ring mandrel
- Jeweler's saw
- Soldering setup
- Files
- Awl
- Line Stamp
- Ruler
- Silver-black patina
- Anvil Horn
- Rawhide mallet
- Assorted pliers
- Sharpie marker
- Polishing equipment
- Brass mallet
- Burnisher



### Project Steps

**Picture #1:** Wrap your bezel wire around your cab. Make sure it is a snug fit, not too big and not too small. Make the seam with an awl and cut with diagonal cutter. (I like flush cutters) File the two ends straight and smooth. Remember, silver solder will not fill a gap, so the better you prepare your joint, the better your finished piece will be and the easier it will be to solder.



**Picture #2:** You must also make sure your bezel fits side to side with no twisting. I like to take my parallel jaw pliers and grab the joint, and then move the bezel up and down on time to take any of the fight out of the metal, and also insure that my joint is perfectly aligned on all axis.



**Picture #3:** Apply flux to your joint, then put a small piece of hard solder over the joint. Start with a soft flame on your torch to slowly dry the flux, or else your solder will fly off into space. Once the flux is dry, turn up your torch and heat your joint evenly until the solder flows. Remember, solder will always flow towards the heat, so heat both sides of your joint evenly. Pickle and rinse.



**Picture #4:** Reform your bezel over your cab to be sure it still fits. Take the 12 gauge half-round wire and start bending it around the outside of the bezel. I use my old anvil horn to form the metal. You will also find that your fingers work very well to make subtle adjustments to your wire. You will have to flatten the wire often with your rawhide mallet as you work. Once you have the shape you want and a nice even gap all the way around your bezel, over-lap the ends and cut them just like you would a jump ring. This will give you a very even joint to solder.



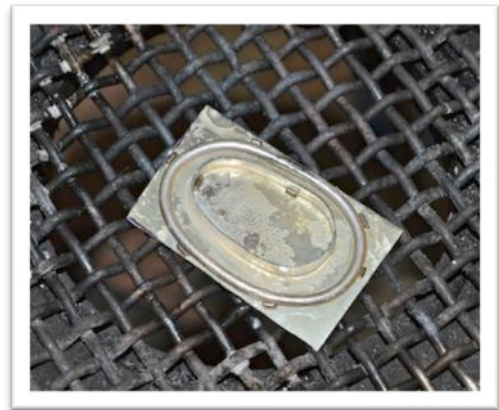
**Picture #5:** After you solder your joint with hard solder, pickle and rinse and then file the joint smooth to remove any trace of a joint. Finally, set it around your bezel to make sure it fits the way you want and hasn't lost its shape.



**Picture #6:** Set your bezel and shadow box on your sheet silver, which will become the backing plate. Use a Sharpie marker to mark your silver and then cut out the backing plate, using either shears or a jeweler's saw.



**Picture #7:** After you have cut out your plate, you're ready to solder. I like to use a soldering screen so I can heat the piece evenly from the bottom and not worry about melting my thin little bezel wire. Remember, solder flows towards the heat, and when you're soldering pieces that are of different sizes and thicknesses, you must be careful to heat the larger piece more than the smaller piece so you don't end up with a big melted blob. (That's the technical term.) Flux your piece, and then add medium solder around all of your joint area. Solder has a nasty little habit of taking a small amount of metal with it when it flows, so I always try to put my solder where it doesn't matter if that happens, such as inside the bezel where it will be covered by the stone, or outside the finished piece, so I will cut it off. Sheet solder tends to do this more than wire solder, so I almost always use wire solder. Also, try to place your solder snug up against the joints or else the solder will just pool up and not flow into your joint. Solder, pickle, and rinse.



**Picture #8:** When you get your piece dried off, check to make sure your solder flowed into every area. When you're sure you have good joints, use a jeweler's saw to trim the excess plate. Saw close to your shadow box, but not into it. Leave a little bit to file off. Once its filed, clean up any flashing on the side/bottom of your plate with a fine cut file, and then sand the edge to make sure its smooth. Remember, jewelry isn't supposed to HURT!



**Picture #9:** A little trick I learned from Native American artist Lee Epperson is to pre-polish any area that will be difficult to get to after the piece is all assembled. That said, I like to pre-polish the back of the plate before I solder the shank on.



**Picture #10:** To add a little visual interest to our shadow box, I took a straight lining stamp and put several lines on the half-round border at 12, 3, 6, and 9 o'clock. I USUALLY stamp an odd number of lines, just because it feels better, but I also usually don't stamp the same number at each spot. You decide what you like.



**Picture #11:** Now we can start on the shank. I use a guide on my ring mandrel to determine the length to cut my wires. Since this shank will not be closed, or a complete circle (like a plain band) we have a little more leeway on the length we make our pieces. Cut your center piece, the 6 gauge half round to the length you have determined to make your ring the size you need. Then cut the two side pieces of 16 gauge round wire about a 1/4" longer, as they will spread out and have to cover more distance. Mark the center of your shank with your Sharpie, then measure out a little more than a third of the length of the shank and put a mark on both sides. This is where you'll bend out the 16 gauge.



**Picture #12:** Using a pair of half round/half flat pliers, bend both 16 gauge wires on your marks so that when you solder them to the center piece, you'll only solder them in the center third. Don't worry if the bends aren't even, all that matters is that they are in the same place on both pieces.



**Picture #13:** This is what your shank should look like before soldering. Notice that the bends aren't all the same, but they are in the same place. Now you're ready to solder.



**Picture #14:** Put flux on your pieces and then put a couple of small pieces of medium solder on both sides of the center piece. I'm using medium solder because we'll be soldering two small 16 gauge pieces to one BIG 6 gauge piece, and I don't want to have to get my metal any hotter than I have to thereby reducing the chance that I'll melt one or both of the 16 gauge pieces while trying to get my solder to flow. Go ahead and solder, pickle and rinse.

Take your flat shank and bend it around your ring mandrel. I always make my initial bend a little smaller than the finished size as it's easier to make the shank larger than smaller. Once you have it bent to size, move the 16 gauge wires so that they are an equal distance from the center piece. Trim the 16 gauge wires so that they are even with the length of the center piece. Now file the tops of the wires until they are flat across and will lay flush on the back plate.



**Picture #15:** Place your plate face down on your soldering surface and flux it as well as the shank. Set the shank on the plate in approximately the correct position. Don't worry about being exact until you have the easy solder placed, as you will probably bump it and mess up the alignment. I like to put the solder on the outsides and concentrate my heat on the inside of the shank to draw the solder in when it flows. Once the solder flows, pickle and rinse. Dry off your ring, and try to pull each leg of the shank off. If it's soldered, you can't do it. If it comes loose, re-solder until it doesn't.



**Picture #16:** To highlight our shadow box and lines, I painted a little Silver-Black in the depressions. You can also use Liver of Sulfur gel. Then polish your ring.



**Picture #17:** Here's the ring all polished up with the stone just placed in the bezel prior to setting. If for some reason your stone won't fit by just a little, you can use a diamond file and file off a little bit of the edge of the stone to get it to fit.



**Picture #18:** Use a burnisher to push the bezel around the stone. Start at the ends and work the bezel down over the sharpest curves on the stone and then finish off the middle sections. And there you have your finished ring.



### Review Questions

- 1) A bezel must fit together both horizontally and vertically
  - a) True
  - b) False
- 2) Overlapping the ends of a wire and cutting/sawing them will give you a very even join to solder.
  - a) True
  - b) False
- 3) When soldering a bezel down, you must heat the larger, thicker baseplate of a piece a bit longer than a bezel.
  - a) True
  - b) False
- 4) Always pre-polish any area that will be difficult to get to after the piece is finished.
  - a) True
  - b) False
- 5) If your stone doesn't exactly fit the bezel, you can use a \_\_\_\_\_ file to file off a bit of the edge.
  - a) Half-round file
  - b) Glass file
  - c) Diamond file
  - d) None of the above
- 6) Solder joins on the bezel must always be soldered with \_\_\_\_\_ solder.
  - a) Easy solder
  - b) Hard solder
  - c) Medium solder
  - d) Extra-easy solder